

# WATERBODY DATA FORM

ENSR | AECOM

☒ Centerline ☐ Re-Route ☐ Access Road ☐ Ancillary Facility ☐ Other:

Feature ID #: S5ATR005

Stream/Waterbody Name (if known): BUFFALO CREEK

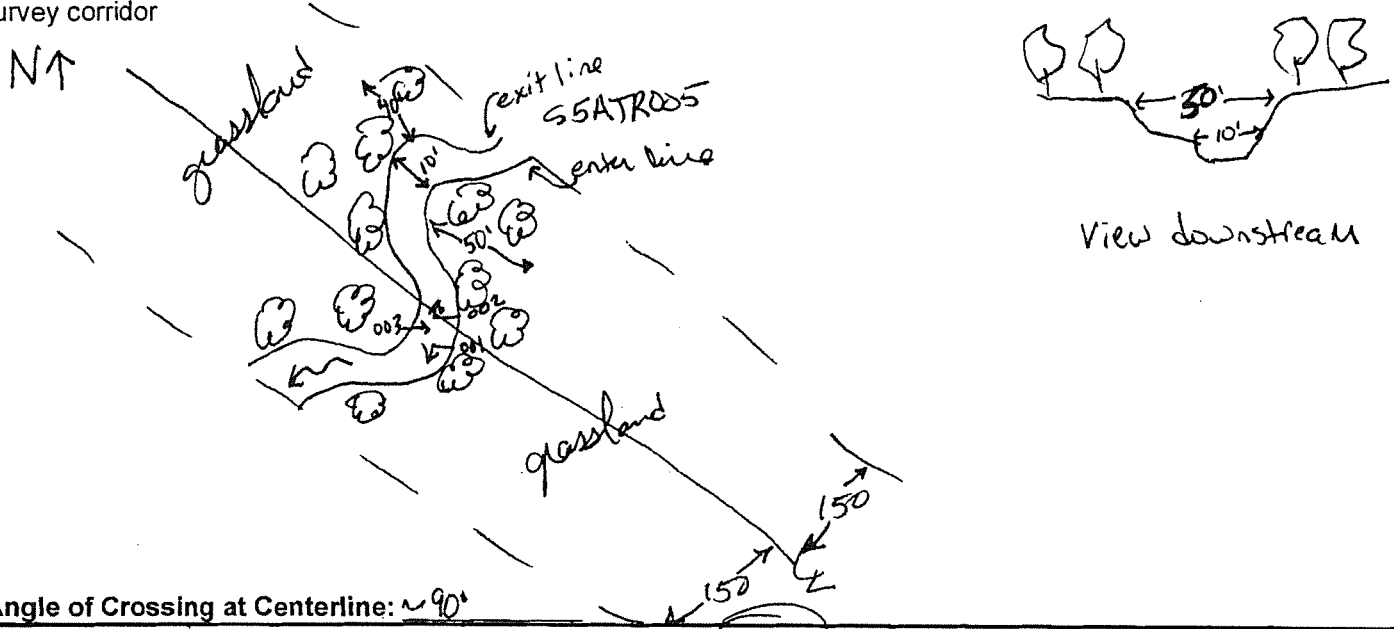
Associated Wetland ID #:

Date: 7/12/08	Project Name & No.: Keystone XL-10623-007-803A	Milepost: 594.6
Investigators: 5A	State/County: SD/ TRIPP	Quad Name: PAXTON
Logbook No.: 1	Logbook Page No.: 150,151	Tract No.: ML-SD-TR-12090.000
		Picture No.: S5ATR005_S,N,E

## PHYSICAL ATTRIBUTES

### Waterbody Sketch Plan

Please include: Directional & North Arrow, Centerline, Length of feature, Distances from Centerline, Photo Locations, and Survey corridor



Waterbody Type	<input type="checkbox"/> Lake <input type="checkbox"/> Pond <input type="checkbox"/> Borrow Pit <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ag. Ditch <input type="checkbox"/> Other:							
Stream Flow	<input type="checkbox"/> Fast <input type="checkbox"/> Moderate <input type="checkbox"/> Slow <input type="checkbox"/> Very Slow <input checked="" type="checkbox"/> None		Flow type	<input type="checkbox"/> Perennial (Flows year round) <input checked="" type="checkbox"/> Seasonal (Continuous flow ≥ 3 months) <input type="checkbox"/> Intermittent (Flows <3 months) <input type="checkbox"/> Ephemeral (Flows only in response to rainfall)				Direction of Flow where it crosses CL:W (N, NE, E, SE, S, SW, W, NW)
Subsurface Flow?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Unknown							
OHWM Width (ft.):	10		Sinuosity	<input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering				
Stream Width (ft.)	Top of Bank (at crossing location): 50			Water Surface (at crossing location): 3				
Stream Depth (in.)	<input checked="" type="checkbox"/> 0-3 <input type="checkbox"/> 3-6 <input type="checkbox"/> 6-12 <input type="checkbox"/> 12-18 <input type="checkbox"/> 18-24 <input type="checkbox"/> 24-36 <input type="checkbox"/> 36-48 <input type="checkbox"/> 48-60 <input type="checkbox"/> 60+							
OHWM Indicator	<input type="checkbox"/> Clear natural line on bank <input type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Shelving <input type="checkbox"/> Scour <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Bent, matted or missing vegetation <input type="checkbox"/> Wrested vegetation <input type="checkbox"/> Water staining <input type="checkbox"/> Soil character changes <input checked="" type="checkbox"/> Sediment deposition <input type="checkbox"/> Sediment sorting <input type="checkbox"/> Litter and debris <input type="checkbox"/> Leaf litter disturbed <input type="checkbox"/> Other:							
Bank Height (ft.) (looking downstream)	Left: <input type="checkbox"/> 0-2 <input type="checkbox"/> 2-4 <input checked="" type="checkbox"/> 4-6 <input type="checkbox"/> 6-8 <input type="checkbox"/> 8+ Right: <input type="checkbox"/> 0-2 <input checked="" type="checkbox"/> 2-4 <input type="checkbox"/> 4-6 <input type="checkbox"/> 6-8 <input type="checkbox"/> 8+							
Bank Slope (looking downstream)	Left: <input type="checkbox"/> 4:1 <input type="checkbox"/> 3:1 <input type="checkbox"/> 2:1 <input checked="" type="checkbox"/> 1:1 <input type="checkbox"/> Vertical Right: <input type="checkbox"/> 4:1 <input type="checkbox"/> 3:1 <input checked="" type="checkbox"/> 2:1 <input type="checkbox"/> 1:1 <input type="checkbox"/> Vertical							

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**QUALITATIVE ATTRIBUTES**

<b>Water Appearance</b> (check all that apply)	Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Floating algal mats <input checked="" type="checkbox"/> <i>in pools</i> Water Color: Slightly Turbid <input type="checkbox"/> Very Turbid <input type="checkbox"/> Greenish color <input type="checkbox"/> Obvious surface scum <input type="checkbox"/> Other:				
<b>Stream Substrate %</b>	Silts/Clay 50%    Cobbles    Bedrock    Sands 25%    Gravel 25% Concrete    Muck    Vegetation: Other:    Explain:				
<b>Aquatic Habitats</b> (check all that apply)	Sand Bar <input type="checkbox"/> Gravel Riffles <input type="checkbox"/> In-stream emergent plants: <input type="checkbox"/> Gravel Bar <input type="checkbox"/> Deep Pools <input checked="" type="checkbox"/> In-stream submerged plants: <input type="checkbox"/> Mud Bar <input checked="" type="checkbox"/> Bank root systems <input type="checkbox"/> Fringing Wetlands: <input type="checkbox"/> Undercut Banks <input checked="" type="checkbox"/> Overhanging trees/shrubs <input checked="" type="checkbox"/>				
<b>Aquatic Organisms Observed</b> (check all that apply)	Waterfowl <input type="checkbox"/> Fish (adult) <input type="checkbox"/> Turtles <input type="checkbox"/> Other: Snakes <input type="checkbox"/> Fish (juvenile) <input type="checkbox"/> Frogs <input checked="" type="checkbox"/> <i>Tadpoles</i> Invertebrates:				
<b>Riparian Zone</b>	Width of natural vegetation zone from edge of active channel out onto flood plain (FT): 50 EAST BANK, 30-40 WEST BANK Circle vegetative layers: trees <input checked="" type="checkbox"/> shrubs <input type="checkbox"/> herbs <input checked="" type="checkbox"/> <input type="checkbox"/> Significant bare areas within riparian zone <input type="checkbox"/> Evidence of non-buffered concentrated flows				
<b>Tributary is</b>	<input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial (Man-Made) <input type="checkbox"/> Manipulated				
<b>Channel Condition:</b>	Channelization or Braiding <input type="checkbox"/> Unnatural straightening <input type="checkbox"/> Downcutting <input type="checkbox"/> Dikes/Berms <input type="checkbox"/> Excessive bank erosion <input type="checkbox"/> Other				
<b>Disturbances</b>	Livestock access to riparian zone <input checked="" type="checkbox"/> Manure in stream or on banks <input type="checkbox"/> Waste discharge pipes present <input type="checkbox"/> Other:				

Describe Habitat Characteristics, Aquatic & Terrestrial Diversity:	Habitat ID No.:
LOG/DEBRIS JAMMED IN CREEK- SOME STANDIG WATER QUERCUS MACOCARPA, ULMUS AMERICANA, POPULUS DELTOIDES, BROMUS INERMUS CATTLE ACCESS	

Comments (e.g. pipeline crossing angle, construction constraints, erosion potential, existing disturbances, and meanders)
<b>STREAM QUALITY</b> High <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Low <input type="checkbox"/>